Remarks/Arguments:

Claims 1 - 10 are pending.

In the Communication mailed March 28, 2008, The Examiner asserts that Applicants' reply of February 21, 2008 is not fully responsive to the previous Office Action because no Listing of Claims with status identifiers was included in Applicants' Response. Applicants respectively disagree, and point out that because no claims are being amended or canceled, and none have been added, a listing of claims is not required. *See* MPEP § 714 (C) ("Each amendment document *that includes a change to an existing claim, including the deletion of an existing claim, or submission of a new claim*, must include a complete listing of all claims ever presented . . ." (Emphasis added)). Nonetheless, in order to expedite prosecution, and because when contacted by telephone by Applicant's representative, the Examiner maintained his position that the listing of claims is required, Applicants have included a Listing of the Claims, solely for the benefit of the Examiner. For the Examiner's further convenience, the arguments below are repeated from the response filed February 21, 2008.

Claims 1, 2, 5-7 and 10 have been rejected under 35 U.S.C. § 102(e) as being anticipated by Davids et al. (U.S. 2003/0161571). This ground for rejection is respectfully traversed for the reasons set forth below.

Claim 1 includes features neither disclosed nor suggest by the cited art, namely:

> An optical coupler... comprising:
>
> ...a tapered top portion connecting the first and second top planar portions...
>
> ...a base portion... the intersection of the base portion and one side portion forming a termination point...
>
> ...the tapered portion has a slope angle such that the light from the optical fiber reflects from the tapered portion and is incident upon the termination point, and the incident angle of the light at the termination point equals a mode angle of the silicon-on-insulator waveguide (Emphasis Added)

Claim 6 includes a similar recitation. Referring to Fig. 1 of the subject specification, an optical coupler 10, as recited in claims 1 and 6, includes a tapered top portion 12 with a slope angle α. The optical coupler 10 also includes a base portion 18 and side

portions 20. The optical coupler 10 has a termination point T formed by the intersection of base 18 with one side portion 20. Light 104 reflects from the tapered portion 12 and is incident upon the termination point T at an incident angle. The incident angle of light at the termination point T equals a waveguide mode angle Θ_M of a silicon-on-insulator (SOI) waveguide 100. In this manner, light 104 produces a strong evanescent electromagnetic field in a narrow region below the coupler base 18 and the light 104 can tunnel through tunnel layer 102 and into the SOI waveguide 100. (See also paragraphs [0024-0025] of the subject specification.)

Davids et al. disclose, in Fig. 6A, a waveguide including waveguide layer 28 that covers intermediate cladding layer 24 and mesa region 20. The waveguide also includes buried silicon dioxide layer 14 between wafer 16 and intermediate cladding layer 24/mesa region 20. Mesa region 20 includes attenuating layer 18 and silicon layer 12 (a lossy detector material). A slope of a top surface 30 of waveguide layer 28 defines a beveled mirror 31. (Paragraphs [0011], [0013], [0017], [0022].) In use, a mode traveling through waveguide layer 28 undergoes total internal reflection off beveled mirror 31 and is directed into silicon layer 12 through attenuating layer 18 (paragraph [0017]).

Davids et al. do not disclose or suggest an optical coupler that includes: 1) a tapered top portion with a slope angle and 2) a base portion having a termination point with one side portion, such that light reflects from the tapered portion and is incident upon the termination point at an incident angle equal to a mode angle of a silicon-on-insulator waveguide, as required by independent claims 1 and 6. Davids et al., instead, disclose that a mode traveling through waveguide layer 28 undergoes total internal reflection off beveled mirror 31 and is directed into silicon layer 12 through attenuating layer 18 (Paragraph [0017]). Davids et al. are silent regarding an optical coupler that reflects light from a tapered portion to a termination point of the optical coupler (formed by the intersection of a base portion of the coupler and one side portion of the coupler), as required by claims 1 and 6. Because Davids et al. do not direct light to a termination point of an optical coupler, Davids et al. cannot further disclose or suggest that light is incident on the termination point at an incident angle equal to a mode angle of a silicon-on-insulator waveguide, as required by claims 1 and 6. Thus, Davids et al. do not include all of the features of claims 1 and 6.

In paragraph 5, page 3 of the Office Action, the Examiner asserts that Davids et al. teach a tapered reflective portion 31 which reflects modes from another waveguide such as an optical fiber "at a slope incident modal angle to a detector 12 which forms a termination point with substrate layers 14, 16 and a base portion 18, 24 which provides support to the first and second planar waveguide portion." Applicants respectfully disagree. Although Davids et al. disclose a beveled mirror 31 that directs a mode into silicon layer 12, as discussed above, Davids et al. are silent on an optical coupler that reflects light from a tapered portion to a termination point of the optical coupler, such that the light is incident on the termination point at an incident angle equal to a mode angle of a silicon-on-insulator waveguide.

In Davids et al., buried oxide layer 14 and wafer 16 are below silicon layer and do not contribute to directing a mode into silicon layer 12. It is not clear how, in Davids et al., detector 12 forms "a termination point" with buried oxide layers 14 and wafer 16, as asserted by the Examiner or how this "termination point" is equivalent to a termination point of an optical coupler that couples light to a silicon-on-insulator waveguide, as recited by claims 1 and 6. Furthermore, it is not clear how attenuating layer 18 and cladding layer 24 are equivalent to a base portion of an optical coupler having a termination point and that couples light to a silicon-on-insulator waveguide, as asserted by the Examiner. In addition, Applicants respectfully request that the Examiner clarify which element(s) of Davids et al. the Examiner refers to with respect to "first and second planar waveguide portions (SOI) portions," and how they are equivalent to first and second top planar portions of an optical coupler for coupling light to a silicon-on-insulator waveguide, as recited by claims 1 and 6. As described above, Davids et al. do not include all of the features of claims 1 or 6. Accordingly, allowance of claims 1 and 6 is respectfully requested.

Claims 2, 5, 7 and 10 include all of the features of respective claims 1 and 6 from which they depend. Accordingly, claims 2, 5, 7 and 10 are also patentable over the cited art for at least the same reasons as respective claims 1 and 6.

Applicants appreciate the indication that claims 3, 4, 8 and 9 would be allowable if rewritten in independent form including all limitations of the base claim and any intervening claims. Applicants have not amended claims 3, 4, 8 and 9, however, because it is submitted that the respective base claims from which they depend are allowable, for at least the reasons set forth above.

In view of the arguments set forth above, the above-identified application is in condition for allowance, which action is respectfully requested.

Respectfully submitted,

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The Director is hereby authorized to charge or credit Deposit Account No. **18-0350** for any additional fees, or any underpayment or credit for overpayment in connection herewith.

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